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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,887	08/28/2003	Timothy Donovan	MP0306	8722

26703 7590 04/07/2006

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SANTIAGO CORDERO, MARIVELISSE	
ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/650,887	DONOVAN ET AL.	
	Examiner	Art Unit	
	Marivelisse Santiago-Cordero	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-258* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *48 and 78* is/are allowed.

6)☒ Claim(s) *1-47,49-77 and 79-258* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Terminal Disclaimer

1. The terminal disclaimer filed on 02/01/2006 disclaiming the terminal portion of any patent granted on this application, which would extend beyond the expiration date of any patent granted on Application Number 10/665,252 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Response to Arguments

2. The rejections and objections not addressed below have been withdrawn.

3. Applicant's arguments (See Remarks: pages 71-73) with respect to claims 31, 39, 114, 120, 123, 156-128, 131, 134-135, 139, 142, 145, 151, 177, 183, 186, 189-191, 194, 197-198, 200, 202, 205, 208, 214, 233, 239-241, 246-248, and 253 rejected under 35 U.S.C. 102(e) as being anticipated by Aoyama (Patent No.: US 6,763,471) have been considered but are moot in view of the new ground(s) of rejection.

4. Applicant's arguments (See Remarks: pages 71-73) with respect to claims 26, 56, 61, 69, and 86 rejected under 35 U.S.C. 102(b) as being anticipated by Kobayashi et al. (Pub. No.: 2001/00110457) have been considered but are moot in view of the new ground(s) of rejection.

5. Applicant's arguments (See Remarks: pages 73-75) with respect to claims 1-3, 9, 16, 21-22, 32-33, 46, and 51-52 rejected under 35 U.S.C. 103(a) as being unpatentable by Aoyama in view of Amos (Patent No: US 6,931,870) have been considered but are moot in view of the new ground(s) of rejection.

6. Applicant's arguments (See Remarks: pages 75-76) filed on 2/1/2006 with respect to claims 91-93, 102, 154-156, 165, 217-218, and 225 rejected under 35 U.S.C. 103(a) as being unpatentable by Amos in view of Guerlin have been fully considered but they are not persuasive.

Applicant argues that the PCI based computer system is not "a wireless device with active and low power modes" (see Remarks: page 75, lines 15-16). In response, the wireless device that integrates the 802.11 MAC on a PCI or Cardbus bus is what incorporates the wireless device with active and low power modes as claimed. Amos discloses that increasingly, manufacturers need to reduce the power consumption of their boards and that power conservation is particularly important in portable electronic devices, such as wireless phones, where the product is specifically designed for use in situation where power outlets are not available (col. 1, lines 31-40). Amos further discloses that the 802.11 protocol specifies a procedure for mobile nodes to operate in power saving mode (col. 1, lines 57-65).

Moreover, in response to applicant's argument that there is no suggestion to combine the references (see Remarks: page 76, lines 4-7), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both of the references teach power conservation. The power conservation of Amos is in an 802.11 MAC on a PCI or Cardbus bus incorporated in the wireless device, which can be a wireless phone (Amos: col. 1, lines 31-40), with active and

low power modes (Amos: col. 1, lines 57-65); Guerlin is also directed to power management of components of a mobile phones (Guerlin: col. 1, lines 14-15).

7. Accordingly, the rejection is maintained as stated in the last Office Action.

8. Applicant's arguments (See Remarks: pages 76-77) filed on 2/1/2006 with respect to claims 103-104, 106-107, 111, 166-167, 169-170, 174, and 226-228 rejected under 35 U.S.C. 103(a) as being unpatentable by Aoyama in view of Guerlin have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a wireless Ethernet network device and wherein the wireless Ethernet network device at least one of transmits and receives data during the active mode (see Remarks: page 76, lines 14-21) and a device that transmits and receives data during an active mode and does not transmit and receive data in a low power mode (see Remarks: page 77, lines 6-8)) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Further, in response to applicant's arguments against the references individually (see Remarks: page 77, lines 4-6), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The combination does teach a wireless device, e.g., Guerlin teaches a mobile telephone.

9. Accordingly, the rejection is maintained as stated in the last Office Action.

10. Applicant's amendment necessitated the new grounds of rejection presented in this Office Action. Accordingly, this Action is made **FINAL**.

Claim Objections

11. Claim 99 is objected to because of the following informalities: the limitations "a second PLL" should be corrected since there is no "first PLL" claimed before (note the dependency of the claim 99 is on claim 91). For purposes of applying prior art, the Examiner uses the dependency of claim 99 to be of claim 98, which incorporates the "first PLL". Appropriate correction is required.

12. Claims 110, 119, 150, 162, 173, 182, 213, 223, 230, 236, and 256 are objected to for the same reasons stated above for claim 99. Appropriate correction is required.

13. Amended claims 253-258 are objected to because of the following informalities: the term "wireless Ethernet network device" in line 16 should be corrected to --wireless device-- in order to be consistent with claim terminology; see, e.g., the preamble where it states a wireless device. For purposes of examination, the term "wireless device" will be considered.

Claim Rejections - 35 USC § 112

14. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

15. Amended claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Amended claim 18 recites the limitation "said BBP" in lines 10-11. There is insufficient antecedent basis for this limitation in the claim. It is noted that adding the limitations of claim 2 from which original claim 18 depended from, would overcome this rejection.

Examiner's Remarks

16. For purposes of organization, the claims are structured in the following matter:

Group I: Claims 1-25, 31-55, and 61-85

Group II: Claims 26-30, 56-60, and 86-90

Group III: Claims 91-102, 154-165, and 217-225

Group IV: Claims 103-113, 166-176, and 226-232

Group V: Claims 114-122, 177-185, and 233-238

Group VI: Claims 123-133, 186-196, and 239-245

Group VII: Claims 134-144, 197-207, and 246-252

Group VIII: Claims 145-153, 208-216, and 253-258

17. In addition, the references Aoyama, Amos, Guerlin et al. (hereinafter "Guerlin", Chapman et al. (hereinafter "Chapman"), and Pohjonen relied upon herein below are cited in form PTO-892, paper no. 20050930.

Claim Rejections - 35 USC § 103

GROUP I:

18. Claims 1-3, 9, 22, 31-33, 39, 52, 61-63, 69, and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in view of Hunter et al. (hereinafter "Hunter"; Pub. No.: US 2003/0025800).

Regarding claim 1, Aoyama discloses a device with active and low power modes, comprising:

a first voltage regulator that regulates supply voltage during the active mode and that is powered down during the low power mode (Fig. 3, reference Vdd; from col. 7, line 39 through col. 8, line 2);

a second voltage regulator that dissipates less power than said first voltage regulator (Fig. 3, reference numeral 1; from col. 7, line 39 through col. 8, line 2), and that regulates supply voltage during the low power mode (Fig. 3, reference numeral 1; from col. 7, line 39 through col. 8, line 2); and

a controller device that selects said first voltage regulator during the active mode and said second voltage regulator during the low power mode (from col. 7, line 39 through col. 8, line 2).

In spite of that Aoyama teaches the device is a camera (col. 1, lines 10-12), Aoyama fails to particularly disclose that the camera can be used in a wireless Ethernet network device as claimed.

In the same field of endeavor, Hunter discloses a camera device that is part of a wireless Ethernet network (page 3, paragraph [0024]). The device includes a normal active mode and power conservation mode (page 3, paragraph [0026]). The device at least one of transmits and receives data during the active mode (page 3, paragraph [0026]). Some of the advantages of Hunter's invention are that Ethernet is widely available, cost-effective, and is the best engineering design choice. Note that the controller of Aoyama is modified to be a medium access controller (MAC) in order to comply with particular requirements of Ethernet networks.

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify Aoyama's invention to operate in a wireless Ethernet network as suggested by Hunter because Ethernet is widely available, cost-effective, and is the best engineering design choice. Note that the controller of Aoyama is modified to be a medium access controller (MAC) in order to comply with particular requirements of Ethernet networks.

Regarding claims 31 and 61, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 1.

Regarding claim 2, Aoyama in combination with Hunter fail to disclose further comprising a baseband processor (BBP) that performs radio frequency mixing and that communicates with said MAC device.

However, the Examiner takes Official Notice that it was notoriously well known in the art at the time the invention was made to incorporate a baseband processor (BBP) that performs radio frequency mixing and that communicates with said MAC device. Therefore, it would have been obvious to one of ordinary skill in this art at the time the invention was made to modify the combination of Aoyama in view of Hunter to incorporate a baseband processor (BBP) that performs radio frequency mixing and that communicates with said MAC device in order to obtain an optimum frequency signal for further processing and to comply with particular requirements of Ethernet networks.

Regarding claims 32 and 62, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 2.

Regarding claim 3, Aoyama in combination with Hunter disclose the device of claim 2. Aoyama in combination with Hunter fail to disclose wherein at least one of said first and second

voltage regulators is located in said BBP. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to locate at least one of said first and second voltage regulators of Aoyama in combination with Hunter in said BBP, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893), in addition, to make it integral and place in a single housing.

Regarding claims 33 and 63, the limitations are rejected for the same reasons and motivations stated above for claim 3.

Regarding claim 9, in the obvious combination, Aoyama, wherein when said MAC device initiates the low power mode, said first voltage regulator is shut down (from col. 7, line 39 through col. 8, line 2).

Regarding claims 39 and 69, the limitations are rejected for the same reasons and motivations stated above for claim 3.

Regarding claim 22, Aoyama in combination with Amos disclose the claimed invention except for wherein said wireless Ethernet network device dissipates less than 2mW when in said low power mode. However, it would have been obvious to one of ordinary skill in this art at the time the invention was made to dissipate less than 2mW when in said low power mode, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 52 and 82, the limitations are rejected for the same reasons and motivations stated above for claim 22.

19. Claims 4-7, 15, 19, 34-37, 45, 49, 64-67, 75, and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter and further in view of Applicant's admitted prior art.

Regarding claim 4, Aoyama in combination with Hunter discloses the device of claim 2. Aoyama in combination with Hunter fail to disclose further comprising a first phase locked loop (PLL) that generates a first clock signal for said BBP during the active mode.

However, Applicant's admitted prior art discloses a first phase locked loop (PLL) that generates a first clock signal for said BBP during the active mode (Background of the Invention: paragraph [0003]; note that according to Applicant's admitted prior art, the BBP may include PLL which inherently generates clock signals).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate a first clock signal for said BBP during the active mode of Aoyama in combination with Hunter as suggested by Applicant's admitted prior art because it would conserve power (Applicant's admitted prior art: Background of the Invention, paragraph [0003]).

Regarding claims 34 and 64, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 4.

Regarding claim 5, in the obvious combination, Applicant's admitted prior art discloses wherein said first PLL is located in said BBP (Background of the Invention: paragraph [0003]).

Regarding claims 35 and 65, the limitations are rejected for the same reasons and motivations stated above for claim 5.

Regarding claim 6, in the obvious combination, Applicant's admitted prior art discloses further comprising a crystal oscillator that outputs timing signal to said first PLL during the active mode (Background of the Invention: paragraph [0003]).

Regarding claims 36 and 66, the limitations are rejected for the same reasons and motivations stated above for claim 6.

Regarding claim 7, in the obvious combination, Applicant's admitted prior art discloses further comprising: a radio frequency (RF) transceiver that transmits and receives wireless signals, that communicates with said BBP and that includes a second PLL (Background of the Invention: paragraphs [0002]-[0003]; note the plurality of phase locked loops) that receives said timing signal from said crystal oscillator during the active mode and that generates a second clock signal for said RF transceiver (Background of the Invention: paragraph [0003]; the RF transceiver may include PLL which inherently generates clock signals).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate in the device of Aoyama in combination with Hunter and Applicant's admitted prior art a radio frequency (RF) transceiver that transmits and receives wireless signals, that communicates with said BBP and that includes a second PLL that receives said timing signal from said crystal oscillator during the active mode and that generates a second clock signal for said RF transceiver as suggested by Applicant's admitted prior art because they adjust the frequency of the input signal.

Regarding claims 37 and 67, the limitations are rejected for the same reasons and motivations stated above for claim 7.

Regarding claim 15, Aoyama in combination with Hunter fail to disclose wherein said wireless Ethernet network device is operated in an infrastructure mode.

However, Applicant's admitted prior art discloses wherein said wireless Ethernet network device is operated in an infrastructure mode (Background of the Invention: paragraph [0004]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to operate the device of Aoyama in combination with Hunter in an infrastructure mode as suggested by Applicant's admitted prior art because the host communicates with a network via the Ethernet network device and an access point (Background of the Invention: paragraph [0004]) and it is widely available.

Regarding claims 45 and 75, the limitations are rejected for the same reasons and motivations stated above for claim 15.

Regarding claim 19, in the obvious combination, Applicant's admitted prior art discloses wherein said crystal oscillator is an external crystal oscillator (XOSC) (Background of the Invention: paragraph [0003]).

Regarding claims 49 and 79, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 19.

20. Claims 16, 21, 46, 51, and 76 are rejected under 35 U.S.C. 102(e) as being anticipated by Aoyama in combination with Hunter and further in view of Amos.

Regarding claim 16, Aoyama in combination with Hunter fail to disclose wherein said wireless Ethernet network device is operated in an ad hoc mode.

However, in the same field of endeavor, Amos discloses wherein said wireless Ethernet network device is operated in an ad hoc mode (from col. 1, line 57 through col. 2, line 4).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to operate the device of Aoyama in combination with in combination with Hunter in an ad hoc mode as suggested by Amos because if the traffic indication map beacon indicates traffic is pending for the mobile unit, the mobile unit must then stay awake until it has handled all its traffic and can then return to power save mode (Amos: from col. 1, line 57 through col. 2, line 4).

Regarding claims 46 and 76, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 16.

Regarding claim 21, Aoyama in combination with Hunter fail to disclose wherein said MAC device includes transmit and receive state machines and a transmit buffer and further comprising initiating said low power mode when said transmit buffer is empty and said transmit and receive state machines are idle.

However, in the same field of endeavor, Amos discloses wherein said MAC device includes transmit and receive state machines and a transmit buffer and further comprising initiating said low power mode when said transmit buffer is empty and said transmit and receive state machines are idle (col. 4, lines 16-38).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate in the device of Aoyama in combination with Hunter wherein said MAC device includes transmit and receive state machines and a transmit buffer and further comprising initiating said low power mode when said transmit buffer is empty and said transmit and receive state machines are idle as suggested by Amos because then there is no more

traffic for the MAC and/or all of the traffic is completed, hence, the MAC can sleep until the next beacon (Amos: col. 4, lines 16-38).

Regarding claim 51, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 21.

21. Claims 8, 12-14, 17, 24-25, 38, 42-44, 47, 54-55, 68, 72-74, 77, and 84-85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter and Applicant's admitted prior art, as stated above for claim 7, and further in view of Amos.

Regarding claim 8, Aoyama in combination with Hunter and Applicant's admitted prior art fail to disclose further comprising a first oscillator that generates a third clock signal during the low power mode, wherein said first oscillator dissipates less power than said crystal oscillator.

However, in the same field of endeavor, Amos discloses further comprising a first oscillator that generates a third clock signal during the low power mode, wherein said first oscillator dissipates less power than said crystal oscillator (col. 3, lines 4-8).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate a first oscillator that generates a third clock signal during the low power mode of Aoyama in combination with Hunter and Applicant's admitted prior art, wherein said first oscillator dissipates less power than said crystal oscillator as suggested by Amos because it will minimize power consumption by operating the controller at the lowest clock speed necessary and by turning off the high frequency oscillator when not in use (Amos: col. 6, lines 8-11).

Regarding claims 38 and 68, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 8.

Regarding claim 12, Aoyama in combination with Hunter and Applicant's admitted prior art fail to disclose wherein when said MAC device initiates the low power mode, said crystal oscillator is shut down.

However, in the same field of endeavor, Amos discloses wherein when said MAC device initiates the low power mode, said crystal oscillator is shut down (col. 3, lines 4-8).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to shut down, when said MSC device initiates the low power mode of Aoyama in combination with Hunter and Applicant's admitted prior art, said crystal oscillator as suggested by Amos because it will minimize power consumption by operating the controller at the lowest clock speed necessary and by turning off the oscillator when not in use (Amos: col. 6, lines 8-11).

Regarding claims 42 and 72, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 12.

Regarding claim 13, in the obvious combination, Amos discloses wherein said MAC device includes a counter (Amos: col. 3, lines 4-8) and wherein said MAC device initiates the low power mode, powering said counter (Amos: col. 3, lines 4-8). In addition, in the obvious combination, Aoyama discloses said second voltage regulator powers said first oscillator (Figs. 3 and 9).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to power said first oscillator of Aoyama in combination with Hunter and

Applicant's admitted prior art using said second voltage regulator as suggested by Aoyama because it would provide the necessary voltage (Aoyama: col. 10, lines 59-63).

Regarding claims 43 and 73, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 13.

Regarding claim 14, in the obvious combination, Amos discloses wherein when said counter reaches a predetermined count, said MAC device powers up at least two of said crystal oscillator, said first voltage regulator, said RF transceiver, said first PLL, said BB processor and said second PLL (col. 3, lines 19-25; from col. 4, line 60 through col. 5, line 3).

Regarding claims 44 and 74, the limitations are rejected for the same reasons and motivations stated above for claim 14.

Regarding claim 17, Aoyama in combination with Hunter and Applicant's admitted prior art fail to disclose wherein said MAC device includes an external interface and wherein when said MAC device receives a wake up signal from a host via said external interface, said MAC device powers up at least two of said crystal oscillator, said first voltage regulator, said RF transceiver and said first and second PLL.

However, in the same field of endeavor, Amos discloses wherein said MAC device includes an external interface and wherein when said MAC device receives a wake up signal from a host via said external interface (col. 5, lines 7-8), said MAC device powers up at least two of said crystal oscillator, said first voltage regulator, said RF transceiver and said first and second PLL (from col. 4, line 59 through col. 5, line 55).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate in the MAC device of Aoyama in combination with Hunter

and Applicant's admitted prior art an external interface and wherein when said MAC device receives a wake up signal from a host via said external interface, said MAC device powers up at least two of said crystal oscillator, said first voltage regulator, said RF transceiver and said first and second PLL because it would it would add capacity to the device only when needed.

Regarding claims 47 and 77, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 17.

Regarding claim 24, the obvious combination fails to disclose wherein said first oscillator is located in said BB processor. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to locate first oscillator of Aoyama in said BB processor, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

Regarding claims 54 and 84, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 24.

Regarding claim 25, the obvious combination, Applicant's admitted prior art discloses wherein at least two of said BB processor, said first voltage regulator, said second voltage regulator, said RF transceiver, said MAC device, and said first PLL are implemented using a system on chip (SOC) (Background of the Invention: paragraphs [0002]-[0003]).

Regarding claims 55 and 85, the limitations are rejected for the same reasons and motivations stated above for claim 25.

22. Claims 10-11, 40-41, and 70-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter and Applicant's admitted prior art as applied to claim 7 above, and further in view of Guerlin.

Regarding claim 10, Aoyama in combination with Hunter and Applicant's admitted prior art disclose the device of claim 7. Aoyama in combination with Hunter and Applicant's admitted prior art fail to disclose wherein when said MAC device initiates the low power mode said RF transceiver is shut down.

However, in the same field of endeavor, Guerlin discloses wherein when said MAC device initiates the low power mode said RF transceiver is shut down (col. 2, lines 33-39).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant incorporate wherein when said MAC device of Aoyama in combination with Hunter and Applicant's admitted prior art initiates the low power mode, shutting down the RF transceiver as suggested by Guerlin in order to maximize energy conservation (Guerlin: col. 2, lines 33-39).

Regarding claims 40 and 70, the limitations are rejected for the same reasons and motivations stated above for claim 10.

Regarding claim 11, Aoyama in combination with Hunter and Applicant's admitted prior art disclose the method of claim 7. Aoyama in combination with Hunter and Applicant's admitted prior art fail to wherein when said MAC device initiates the low power mode, said first and second PLL are shut down (note, however, that Applicant's admitted prior art discloses the first and second PLL may be included in the RF transceiver).

However, Guerlin discloses shutting down said first and second PLL when said MAC device initiates the low power mode (col. 2, lines 33-39; note that Guerlin shuts down the circuits in the transceiver).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to shut down said first and second PLL of Aoyama in combination with Hunter and Applicant's admitted prior art when said MAC device initiates the low power mode as suggested by Guerlin in order to maximize energy conservation (Guerlin: col. 2, lines 33-39).

Regarding claims 41 and 71, the limitations are rejected for the same reasons and motivations stated above for claim 11.

23. Claims 20, 50, and 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter and Applicant's admitted prior art as applied to claim 6 above, and further in view of Pohjonen (Patent No.: 6,944,432).

Regarding claim 20, Aoyama in combination with Hunter and Applicant's admitted prior art disclose the device of claim 6 wherein said crystal oscillator includes an external crystal (Background of the Invention: paragraph [0003]). Aoyama in combination with Hunter and Applicant's admitted prior art fails to disclose wherein said crystal oscillator includes an amplifier that is integrated with one of said MAC device, said BB processor, and said RF transceiver.

However, Pohjonen discloses a method for a wireless network device wherein said crystal oscillator includes an external crystal and an amplifier that is integrated with one of said MAC device, said BB processor, and said RF transceiver (col. 1, lines 56-59; note that the PLLs

may be included in the BB processor and/or the RF transceiver as suggested by Applicant's admitted prior art).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the crystal oscillator of Aoyama in combination with Hunter and Applicant's admitted prior art an external crystal and an amplifier that integrates with one of said MAC device, said BB processor, and said RF transceiver as suggested by Pohjonen because it would further integrate the components (Pohjonen: col. 1, lines 56-59).

Regarding claims 50 and 80, the limitations are rejected for the same reasons and motivations stated above for claim 20.

24. Claim 81 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter, Applicant's admitted prior art and Pohjonen as applied to claim 80 above, and further in view of Amos.

Regarding claim 81, Aoyama in combination with Hunter, Applicant's admitted prior art and Pohjonen fail to disclose wherein said MAC device includes transmit and receive state machines and a transmit buffer and further comprising initiating said low power mode when said transmit buffer is empty and said transmit and receive state machines are idle.

However, in the same field of endeavor, Amos discloses wherein said MAC device includes transmit and receive state machines and a transmit buffer and further comprising initiating said low power mode when said transmit buffer is empty and said transmit and receive state machines are idle (col. 4, lines 16-38).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate in the device of Aoyama in combination with Hunter,

Applicant's admitted prior art and Pohjonen wherein said MAC device includes transmit and receive state machines and a transmit buffer and further comprising initiating said low power mode when said transmit buffer is empty and said transmit and receive state machines are idle as suggested by Amos because then there is no more traffic for the MAC and/or all of the traffic is completed, hence, the MAC can sleep until the next beacon (Amos: col. 4, lines 16-38).

25. Claims 23, 53, and 83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter and Applicant's admitted prior art as applied to claim 6 above, and further in view of Chapman.

Regarding claim 23, Aoyama in combination with Hunter and Applicant's admitted prior art disclose the device of claim 6, further comprising a processor that communicates with said crystal oscillator (Aoyama: Figs. 3 and 6). Aoyama in combination with Hunter and Applicant's admitted prior art fail to disclose further comprising a processor that calibrates said first oscillator using said timing signal from said crystal oscillator.

However, Chapman discloses further comprising a processor that calibrates said first oscillator using said timing signal from said crystal oscillator (from col. 2, line 65 through col. 3, line 5).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to calibrate said first oscillator using said timing signal from said crystal oscillator of Aoyama in combination with Hunter and Applicant's admitted prior art as suggested by Chapman because it would compensate for the inaccuracy of the oscillator due to its dependence upon voltage, process and temperature and it's inherent frequency instability (Chapman: from col. 2, line 65 through col. 3, line 5).

Regarding claims 53 and 83, the limitations are rejected for the same reasons and motivations stated above for claim 23.

GROUP II:

26. Claims 26-27, 56-57, 86-87 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in view of Hunter.

Regarding claim 26, Aoyama discloses a processor for a device with active and low power modes, comprising:

a first voltage regulator that regulates supply voltage during the active mode and that is powered down during the low power mode (Fig. 3, reference Vdd; from col. 7, line 39 through col. 8, line 2);

a second voltage regulator that dissipates less power than said first voltage regulator (Fig. 3, reference numeral 1; from col. 7, line 39 through col. 8, line 2), and that regulates supply voltage during the low power mode (Fig. 3, reference numeral 1; from col. 7, line 39 through col. 8, line 2); and

In spite of that Aoyama teaches the device is a camera (col. 1, lines 10-12), Aoyama fails to particularly disclose that the camera can be used in a wireless Ethernet network device as claimed.

In the same field of endeavor, Hunter discloses a camera device that is part of a wireless Ethernet network (page 3, paragraph [0024]). The device includes a normal active mode and power conservation mode (page 3, paragraph [0026]). The device at least one of transmits and receives data during the active mode (page 3, paragraph [0026]). Some of the advantages of Hunter's invention are that Ethernet is widely available, cost-effective, and is the best

engineering design choice. Note that the processor of Aoyama is modified to be a baseband processor in order to comply with particular requirements of Ethernet networks.

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify Aoyama's invention to operate in a wireless Ethernet network as suggested by Hunter because Ethernet is widely available, cost-effective, and is the best engineering design choice. Note that the processor of Aoyama is modified to be a baseband processor in order to comply with particular requirements of Ethernet networks.

Regarding claims 56 and 86, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 26.

Regarding claim 27, in the obvious combination, Aoyama discloses wherein said baseband processor (BBP) receives a power mode select signal from a controller (from col. 7, line 39 through col. 8, line 2). Note that, in the combination, the controller of Aoyama is modified to be a medium access controller in order to comply with particular requirements of Ethernet networks.

Regarding claims 57 and 87, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 27.

27. Claims 28-29, 58-59, and 88-89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter as applied to claim 26 above, and further in view of Applicant's admitted prior art.

Regarding claim 28, Aoyama in combination with Hunter discloses the processor of claim 26. Aoyama in combination with Hunter fail to disclose further comprising a first phase

locked loop (PLL) that generates a first clock signal for said BBP during the active mode and that is powered down during the low power mode.

However, Applicant's admitted prior art discloses a first phase locked loop (PLL) that generates a first clock signal for said BBP during the active mode and that is powered down during the low power mode (Background of the Invention: paragraph [0003]; note that according to Applicant's admitted prior art, the BBP may include PLL which inherently generates clock signals).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate a first clock signal for said BBP during the active mode and that is powered down during the low power mode of Aoyama in combination with Hunter as suggested by Applicant's admitted prior art because it would conserve power (Applicant's admitted prior art: Background of the Invention, paragraph [0003]).

Regarding claims 58 and 88, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 28.

Regarding claim 29, in the obvious combination, Applicant's admitted prior art discloses wherein said first PLL receives a timing signal from a crystal oscillator during the active mode (Background of the Invention: paragraph [0003]).

Regarding claims 59 and 89, the limitations are rejected for the same reasons and motivations stated above for claim 29.

28. Claims 30, 60, and 90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter and Applicant's admitted prior art, as stated above for claim 29, and further in view of Amos.

Regarding claim 30, Aoyama in combination with Hunter and Applicant's admitted prior art fail to disclose further comprising a first oscillator that generates a second clock signal during the low power mode, wherein said first oscillator dissipates less power than said crystal oscillator.

However, in the same field of endeavor, Amos discloses further comprising a first oscillator that generates a second clock signal during the low power mode, wherein said first oscillator dissipates less power than said crystal oscillator (col. 3, lines 4-8).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate a first oscillator that generates a second clock signal during the low power mode of Aoyama in combination with Hunter and Applicant's admitted prior art, wherein said first oscillator dissipates less power than said crystal oscillator as suggested by Amos because it will minimize power consumption by operating the controller at the lowest clock speed necessary and by turning off the high frequency oscillator when not in use (Amos: col. 6, lines 8-11).

Regarding claims 60 and 90, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 30.

GROUP III:

29. Claims 91-93, 102, 154-156, 165, 217-218, and 225 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amos in view of Guerlin.

Regarding claim 91, Amos discloses a wireless device with active and low power modes, comprising; an oscillator that generates a first reference frequency and a second reference frequency that is lower than said first reference frequency; radio frequency (RF) transceiver that

communicates with said oscillator and that transmits and receives RF signals (col. 1, lines 58-60; col. 5, lines 7-8, 27-30, and 53-55); and a shutdown module transitions from said first frequency to said second frequency when transitioning from said active mode to said low power mode (col. 2, lines 40-43), and transitions from said second frequency to said first frequency when transitioning from said low power mode to said active mode (col. 2, lines 50-53).

Amos fails to disclose a baseband processor (BBP) that communicates with said oscillator and said RF transceiver and that performs RF mixing; and a shutdown module that shuts down said BBP and said RF transceiver in said low power mode and that operates said BBP and said RF transceiver in said active mode.

However, Guerlin discloses a wireless device with active and low power modes comprising: a radio frequency (RF) transceiver that communicates with said first oscillator and that transmits and receives RF signals (Fig. 1, reference numeral 11; col. 1, lines 55-63); a baseband processor (BBP) that communicates with said first oscillator and said RF transceiver and that performs RF mixing (col. 1, lines 55-63), and a shutdown module shuts down said RF transceiver and said BBP during said low power mode (col. 2, lines 33-39) and operates said BBP and said RF transceiver during said active mode (col. 2, lines 30-33).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate in the wireless device of Amos a baseband processor (BBP) that communicates with said first oscillator and said RF transceiver and that performs RF mixing, wherein said shutdown module shuts down said RF transceiver and said BBP during said low power mode and operates said BBP and said RF transceiver during said active mode as suggested by Guerlin.

One of ordinary skill in this art would have been motivated to incorporate in the wireless device a radio frequency (RF) transceiver that communicates with said first oscillator and that transmits and receives RF signals; and a baseband processor (BBP) that communicates with said first oscillator and said RF transceiver and that performs RF mixing because they are all typical components in a wireless device, e.g., a mobile phone (Guerlin: col. 1, lines 55-63), wherein said shutdown module shuts down said RF transceiver and said BBP during said low power mode and operates said BBP and said RF transceiver during said active mode for maximum energy conservation (Guerlin: col. 2, lines 33-39).

Regarding claim 92, in the obvious combination, Amos discloses wherein said oscillator includes a first oscillator that generates said first reference frequency (Fig. 1, reference numeral 108) and a second oscillator that consumes less power than said first oscillator and that generates said second reference frequency (Fig. 1, reference numeral 110).

Regarding claim 93, in the obvious combination, Amos discloses further comprising a medium access control (MAC) device that includes said shutdown module (col. 3, lines 3-4).

Regarding claim 102, in the obvious combination, Amos discloses a system comprising a wireless device with active and low power modes further comprising a remote device for periodically transmitting a beacon, wherein said shutdown module transitions said wireless device from said low power mode prior to receiving a beacon (col. 1, lines 62-65; col. 5, lines 1-8).

Regarding claims 154 and 217, the limitations are rejected for the same reasons and motivations stated above for claim 91.

Regarding claims 155 and 218, the limitations are rejected for the same reasons and motivations stated above for claim 92.

Regarding claim 156, the limitations are rejected for the same reasons and motivations stated above for claim 93.

Regarding claims 165 and 225, the limitations are rejected for the same reasons and motivations stated above for claim 102.

30. Claims 94, 101, 157, 164, 219, and 224 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amos in combination with Guerlin (hereinafter "Amos/Guerlin") as applied to claim 92 above, and further in view of Chapman.

Regarding claim 94, Amos/Guerlin discloses the wireless device of claim 92 (see above) wherein said first oscillator includes a crystal oscillator (Amos: col. 4, lines 64-66). Amos/Guerlin fail to disclose said second oscillator includes a semiconductor oscillator.

However, Chapman discloses a wireless device with active and low power modes wherein said first oscillator includes a crystal oscillator (col. 4, lines 33-54) and said second oscillator includes a semiconductor oscillator (col. 4, lines 33-54).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate the second oscillator of Amos/Guerlin to include a semiconductor oscillator as suggested by Chapman.

One of ordinary skill in this art would have been motivated to incorporate the second oscillator to include a semiconductor oscillator because it has the characteristics of drawing very little power in both sleep and stop modes (Chapman: col. 4, lines 39-43).

Regarding claim 101, Amos/Guerlin discloses the wireless device of claim 92 (see above). Amos/Guerlin fail to disclose wherein said shutdown module selectively calibrates said second reference frequency of said second oscillator using said first reference frequency of said first oscillator before transitioning to said low power mode.

However, Chapman discloses a wireless device with active and low power modes wherein said shutdown module selectively calibrates said second reference frequency of said second oscillator using said first reference frequency of said first oscillator before transitioning to said low power mode (from col. 2, line 65 through col. 3, line 5).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to calibrate said second reference frequency of said second oscillator using said first reference frequency of said first oscillator of Amos/Guerlin before transitioning to said low power mode as suggested by Chapman.

One of ordinary skill in this art would have been motivated to calibrate said second reference frequency of said second oscillator using said first reference frequency of said first oscillator before transitioning to said low power mode because it would compensate for the inaccuracy of the semiconductor oscillator due to its dependence upon voltage, process and temperature and it's inherent frequency instability (Chapman: from col. 2, line 65 through col. 3, line 5).

Regarding claims 157 and 219, the limitations are rejected for the same reasons and motivations stated above for claim 94.

Regarding claims 164 and 224, the limitations are rejected for the same reasons and motivations stated above for claim 101.

31. Claims 95-97, 100, 158-160, 163, and 220-221 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amos/Guerlin as applied to claim 91 above, and further in view of Aoyama.

Regarding claim 95, Amos/Guerlin disclose the wireless device of claim 91 (see above). Amos/Guerlin fail to disclose further comprising a voltage supply that supplies a first voltage level during said active mode and a second voltage level during said low power mode.

However, Aoyama discloses a voltage supply that supplies a first voltage level during said active mode and a second voltage level during said low power mode (Figs. 3 and 9; from col. 7 line 51 through col. 8, line 2).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate in the wireless device of Amos/Guerlin a voltage supply that supplies a first voltage level during said active mode and a second voltage level during said low power mode as suggested by Aoyama.

One of ordinary skill in this art would have been motivated to incorporate in the wireless device a voltage supply that supplies a first voltage level during said active mode and a second voltage level during said low power mode because it is capable of reducing power consumption (Aoyama: col. 1, lines 12-14).

Regarding claim 96, in the obvious combination, Aoyama discloses wherein said voltage supply includes a first voltage supply that supplies said first voltage level (Figs. 3 and 9; reference Vdd) and a second voltage supply that supplies said second voltage level (Figs. 3 and 9; reference 1; from col. 7, line 66 through col. 8, line 2).

Regarding claim 97, in the obvious combination, Aoyama discloses wherein said shutdown module transitions from said first voltage level to said second voltage level when transitioning from said active mode to said low power mode (from col. 7, line 66 through col. 8, line 2) and transitions from said second voltage level to said first voltage level when transitioning from said low power mode to said active mode (col. 7, lines 39-49 and col. 8, lines 28-39).

Regarding claim 100, in the obvious combination, Aoyama discloses wherein said first voltage supply includes a first voltage regulator and said second voltage supply includes a second voltage regulator (Figs. 3 and 9).

Regarding claim 158 and 220, the limitations are rejected for the same reasons and motivations stated above for claim 95.

Regarding claims 159, the limitations are rejected for the same reasons and motivations stated above for claim 96.

Regarding claims 160 and 221 the limitations are rejected for the same reasons and motivations stated above for claim 97.

Regarding claim 163, the limitations are rejected for the same reasons and motivations stated above for claim 100.

32. Claims 98-99, 161-162, and 222-223 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amos/Guerlin as applied to claim 91 above, and further in view of Applicant's admitted prior art.

Regarding claim 98, Amos/Guerlin disclose the wireless device of claim 91 (see above), wherein the shutdown module shuts down the circuits of the transceiver during said low power

mode (Guerlin: col. 2, lines 33-39) and operates the circuits of the transceiver during said active move (Guerlin: col. 2, lines 30-39). Amos/Guerlin fail to disclose wherein said RF transceiver includes a first phase locked loop (PLL).

However, Applicant's admitted prior art discloses wherein said RF transceiver includes a first phase locked loop (PLL) (Background of the Invention: paragraph [0003]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the RF transceiver of Amos/Guerlin a first phase locked loop as suggested by Applicant's admitted prior art.

One of ordinary skill in this art would have been motivated to include in the RF transceiver a first phase locked loop because they adjust the frequency of the input signal.

Regarding claim 99, Amos/Guerlin disclose the wireless device of claim 98 (see above), wherein the shutdown module shuts down the circuits of the transceiver during said low power mode (Guerlin: col. 2, lines 33-39) and operates the circuits of the transceiver during said active move (Guerlin: col. 2, lines 30-39). Amos/Guerlin fail to disclose wherein said RF transceiver includes a second phase locked loop (PLL).

However, Applicant's admitted prior art discloses wherein said RF transceiver includes a second phase locked loop (PLL) (Background of the Invention: paragraph [0003]; note the plurality of phase locked loops).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the RF transceiver of Amos/Guerlin a second phase locked loop as suggested by Applicant's admitted prior art.

One of ordinary skill in this art would have been motivated to include in the RF transceiver a first phase locked loop because they adjust the frequency of the input signal.

Regarding claims 161 and 222, the limitations are rejected for the same reasons and motivations stated above for claim 98.

Regarding claim 162 and 223, the limitations are rejected for the same reasons and motivations stated above for claim 99.

GROUP IV:

33. Claims 103-104, 106-107, 111, 166-167, 169-170, 174, and 226-228 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in view of Guerlin.

Regarding claim 103, Aoyama discloses a wireless device with active and low power modes, comprising; a voltage supply that supplies a first voltage level (Figs. 3 and 9, reference numeral Vdd) and a second voltage level (Figs. 3 and 9, reference numeral 1); and a shutdown module transitions from said first voltage level to said second voltage level when transitioning from said active mode to said low power mode (from col. 7, line 66 through col. 8, line 2), and transitions from said second voltage level to said first voltage level when transitioning from said low power mode to said active mode (col. 7, lines 39-49 and col. 8, lines 28-39).

Aoyama fails to disclose a radio frequency (RF) transceiver that transmits and receives RF signals; a baseband processor (BBP) that communicates with said RF transceiver and that performs RF mixing; and a shutdown module that shuts down said BBP and said RF transceiver in said low power mode and that operates said BBP and said RF transceiver in said active mode.

However, Guerlin discloses a wireless device with active and low power modes comprising: a radio frequency (RF) transceiver that transmits and receives RF signals (Fig. 1,

reference numeral 11; col. 1, lines 55-63); a baseband processor (BBP) that communicates with said RF transceiver and that performs RF mixing (col. 1, lines 55-63), and a shutdown module shuts down said RF transceiver and said BBP during said low power mode (col. 2, lines 33-39) and operates said BBP and said RF transceiver during said active mode (col. 2, lines 30-33).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate in the wireless device of Aoyama a radio frequency (RF) transceiver that transmits and receives RF signals, a baseband processor (BBP) that communicates said RF transceiver and that performs RF mixing, wherein said shutdown module shuts down said RF transceiver and said BBP during said low power mode and operates said BBP and said RF transceiver during said active mode as suggested by Guerlin.

One of ordinary skill in this art would have been motivated to incorporate in the wireless device a radio frequency (RF) transceiver that transmits and receives RF signals; and a baseband processor (BBP) that communicates with said RF transceiver and that performs RF mixing because they are all typical components in a wireless device, e.g., a mobile phone (Guerlin: col. 1, lines 55-63), wherein said shutdown module shuts down said RF transceiver and said BBP during said low power mode and operates said BBP and said RF transceiver during said active mode for maximum energy conservation (Guerlin: col. 2, lines 33-39).

Regarding claim 104, in the obvious combination, Aoyama discloses wherein said voltage supply includes a first voltage supply that supplies said first voltage level (Figs. 3 and 9, reference numeral Vdd) and a second voltage supply that supplies said second voltage level (Figs. 3 and 9, reference numeral 1).

Regarding claim 106, in the obvious combination, Aoyama discloses further comprising a first oscillator that communicates with said BBP and said RF transceiver (Figs. 3 and 9, reference numeral 3; note that in the obvious combination of Aoyama/Guerlin, the first oscillator of Aoyama will communicate with the BBP and RF transceiver of Guerlin), that receives said first voltage level and that generates a first reference frequency (Figs. 3 and 9).

Regarding claim 107, in the obvious combination, Aoyama discloses further comprising a second oscillator that receives said second voltage level, that consumes less power than said first oscillator and that generates a second reference frequency (Figs. 3 and 9, reference numeral 4; col. 5, lines 9-11).

Regarding claim 111, in the obvious combination, Aoyama discloses wherein said first voltage supply includes a first voltage regulator (Figs. 3 and 9, reference numeral Vdd) and said second voltage supply includes a second voltage regulator (Figs. 3 and 9, reference numeral 1).

Regarding claims 166 and 226, the limitations are rejected for the same reasons and motivations stated above for claim 103.

Regarding claim 167, the limitations are rejected for the same reasons and motivations stated above for claim 104.

Regarding claims 169 and 227, the limitations are rejected for the same reasons and motivations stated above for claim 106.

Regarding claims 170 and 228, the limitations are rejected for the same reasons and motivations stated above for claim 107.

Regarding claim 174, the limitations are rejected for the same reasons and motivations stated above for claim 111.

34. Claims 105, 113, 176, 168, and 232 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama/Guerlin as applied to claim 103 above and further in view of Amos.

Regarding claim 105, Aoyama/Guerlin discloses the wireless device of claim 103 (see above). Aoyama/Guerlin fail to disclose further comprising a medium access controller (MAC) device that includes said shutdown module.

However, Amos discloses a wireless device with active and low power modes further comprising a medium access controller (MAC) device that includes said shutdown module (from col. 2, line 61 through col. 3, line 8).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include the shutdown module of Aoyama/Guerlin in a medium access controller (MAC) device as suggested by Amos.

One of ordinary skill in this art would have been motivated to include the shutdown module in a medium access controller (MAC) device because it is required to be responsive to the host bus interface and events from a wireless or RF interface (Amos: col. 1, lines 41-43).

Regarding claim 168, the limitations are rejected for the same reasons and motivations stated above for claim 105.

Regarding claim 113, Aoyama/Guerlin discloses a system comprising the wireless device of claim 103 (see above). Aoyama/Guerlin fail to disclose further comprising a remote device for periodically transmitting a beacon, wherein said shutdown module transitions said wireless device from said low power mode prior to receiving a beacon.

However, Amos discloses a system comprising a wireless device with active and low power modes further comprising a remote device for periodically transmitting a beacon, wherein

said shutdown module transitions said wireless device from said low power mode prior to receiving a beacon (col. 1, lines 62-65; col. 5, lines 1-8).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to further comprise in the system of Aoyama/Guerlin remote device for periodically transmitting a beacon, wherein said shutdown module transitions said wireless device from said low power mode prior to receiving a beacon as suggested by Amos.

One of ordinary skill in this art would have been motivated to further comprise in the system remote device for periodically transmitting a beacon, wherein said shutdown module transitions said wireless device from said low power mode prior to receiving a beacon because the system would determine if there is any activity that needs to be handled (Amos: col. 5, lines 8-9).

Regarding claims 176 and 232, the limitations are rejected for the same reasons and motivations stated above for claim 113.

35. Claims 108, 112, 171, 175, and 231 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama/Guerlin in view of Chapman.

Regarding claim 108, Aoyama/Guerlin discloses the wireless device of claim 107. Aoyama/Guerlin fail to disclose wherein said first oscillator includes a crystal oscillator and said second oscillator includes a semiconductor oscillator.

However, Chapman discloses a wireless device with active and low power modes wherein said first oscillator includes a crystal oscillator (col. 4, lines 33-54) and said second oscillator includes a semiconductor oscillator (col. 4, lines 33-54).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate the first oscillator of Aoyama/Guerlin to include a crystal oscillator as suggested by Chapman and to incorporate the second oscillator of Aoyama/Guerlin to include a semiconductor oscillator as suggested by Chapman.

One of ordinary skill in this art would have been motivated to incorporate the first and second oscillators to include a crystal oscillator and semiconductor oscillator, respectively because it has the characteristics of drawing very little power in both sleep and stop modes (Chapman: col. 4, lines 39-43).

Regarding claim 112, Aoyama/Guerlin discloses the wireless device of claim 107. Aoyama/Guerlin fail to disclose wherein said shutdown module selectively calibrates said second reference frequency of said second oscillator using said first reference frequency of said first oscillator before transitioning to said low power mode.

However, Chapman discloses a wireless device with active and low power modes wherein said shutdown module selectively calibrates said second reference frequency of said second oscillator using said first reference frequency of said first oscillator before transitioning to said low power mode (from col. 2, line 65 through col. 3, line 5).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to calibrate said second reference frequency of said second oscillator using said first reference frequency of said first oscillator of Aoyama/Guerlin before transitioning to said low power mode as suggested by Chapman.

One of ordinary skill in this art would have been motivated to calibrate said second reference frequency of said second oscillator using said first reference frequency of said first

oscillator before transitioning to said low power mode because it would compensate for the inaccuracy of the semiconductor oscillator due to its dependence upon voltage, process and temperature and it's inherent frequency instability (Chapman: from col. 2, line 65 through col. 3, line 5).

Regarding claims 171, the limitations are rejected for the same reasons and motivations stated above for claim 108.

Regarding claims 175 and 231, the limitations are rejected for the same reasons and motivations stated above for claim 112.

36. Claims 109-110, 172-173, and 229-230 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama/Guerlin and further in view of Applicant's admitted prior art.

Regarding claim 109, Aoyama/Guerlin disclose the wireless device of claim 103 (see above), wherein the shutdown module shuts down the circuits of the transceiver during said low power mode (Guerlin: col. 2, lines 33-39) and operates the circuits of the transceiver during said active move (Guerlin: col. 2, lines 30-39). Aoyama/Guerlin fail to disclose wherein said RF transceiver includes a first phase locked loop (PLL).

However, Applicant's admitted prior art discloses wherein said RF transceiver includes a first phase locked loop (PLL) (Background of the Invention: paragraph [0003]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the RF transceiver of Aoyama/Guerlin a first phase locked loop as suggested by Applicant's admitted prior art.

One of ordinary skill in this art would have been motivated to include in the RF transceiver a first phase locked loop because they adjust the frequency of the input signal.

Regarding claim 110, Aoyama/Guerlin disclose the wireless device of claim 103 (see above), wherein the shutdown module shuts down the circuits of the transceiver during said low power mode (col. 2, lines 33-39) and operates the circuits of the transceiver during said active move (col. 2, lines 30-39). Aoyama/Guerlin fail to disclose wherein said RF transceiver includes a second phase locked loop (PLL).

However, Applicant's admitted prior art discloses wherein said RF transceiver includes a second phase locked loop (PLL) (Background of the Invention: paragraph [0003]; note the plurality of phase locked loops).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the RF transceiver of Aoyama/Guerlin a second phase locked loop as suggested by Applicant's admitted prior art.

Regarding claims 172 and 229, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 109.

Regarding claims 173 and 230, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 110.

GROUP V:

37. Claims 114, 116, 120, 177, 179, 183, and 233 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in view of Hunter.

Regarding claim 114, Aoyama discloses a device with active and low power modes, comprising: a first oscillator that generates a first reference frequency (Fig. 3, reference numeral 3); a second oscillator that generates a second reference frequency that is lower than said first frequency (Fig. 3, reference numeral 4; col. 5, lines 9-11); a first voltage supply that supplies a

first voltage level to said first oscillator (Fig. 3, reference Vdd); a second voltage supply that supplies a second voltage level that is less than said first voltage level to said second oscillator (Fig. 3, reference numeral 1); and a shutdown module that shuts down said first oscillator in said low power mode (col. 7, lines 51-52 and 59-62) and transitions from said first voltage level to said second voltage level when transitioning from said active mode to said low power mode (from col. 7, line 66 through col. 8, line 2), and that operates said first oscillator in said active mode (col. 7, lines 39-42) and transitions from said second voltage level to said first voltage level when transitioning from said low power mode to said active mode (col. 7, lines 39-49 and col. 8, lines 28-39).

In spite of that Aoyama teaches the device is a camera (col. 1, lines 10-12), Aoyama fails to particularly disclose that the camera is wireless as claimed.

In the same field of endeavor, Hunter discloses a camera device that is part of a wireless network (page 3, paragraph [0024]). The device includes a normal active mode and power conservation mode (page 3, paragraph [0026]). The device at least one of transmits and receives data during the active mode (page 3, paragraph [0026]). Some of the advantages of Hunter's invention are that wireless devices are widely available, user-friendlier, more reliable, and for portability.

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify Aoyama's invention to operate in a wireless network as suggested by Hunter because wireless devices are widely available, user-friendlier, more reliable, and for portability.

Regarding claims 177 and 233, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 114.

Regarding claim 116, in the obvious combination, Aoyama discloses further comprising a control device that includes said shutdown module (from col. 7, line 39 through col. 8, line 2). Note that Hunter discloses a wireless Ethernet network device; therefore, the controller of Aoyama is modified to be a medium access control (MAC) device in order to comply with particular requirements of Ethernet networks.

Regarding claim 179, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 116.

Regarding claim 120, in the obvious combination, Aoyama discloses wherein said first voltage supply includes a first voltage regulator and said voltage supply includes a second voltage regulator (Figs. 3 and 9).

Regarding claim 183, the limitations are rejected as stated above for claim 120.

38. Claims 115, 178, and 234 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter as applied to claim 114 above, and further in view of Guerlin.

Regarding claim 115, in the obvious combination, Aoyama discloses wherein said shutdown module shuts down the different system components (col. 11, lines 22-25). Aoyama in combination with Hunter fail to disclose further comprising: a radio frequency (RF) transceiver that communicates with said first oscillator and that transmits and receives RF signals; and a baseband processor (BBP) that communicates with said first oscillator and said RF transceiver and that performs RF mixing, wherein said shutdown module shuts down said RF transceiver

and said BBP during said low power mode and operates said BBP and said RF transceiver during said active mode.

However, Guerlin discloses a wireless device with active and low power modes comprising: a radio frequency (RF) transceiver that communicates with said first oscillator and that transmits and receives RF signals (Fig. 1, reference numeral 11; col. 1, lines 55-63); and a baseband processor (BBP) that communicates with said first oscillator and said RF transceiver and that performs RF mixing (col. 1, lines 55-63), wherein said shutdown module shuts down said RF transceiver and said BBP during said low power mode (col. 2, lines 33-39) and operates said BBP and said RF transceiver during said active mode (col. 2, lines 30-33).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate in the wireless device of Aoyama in combination with Hunter a radio frequency (RF) transceiver that communicates with said first oscillator and that transmits and receives RF signals; and a baseband processor (BBP) that communicates with said first oscillator and said RF transceiver and that performs RF mixing, wherein said shutdown module shuts down said RF transceiver and said BBP during said low power mode and operates said BBP and said RF transceiver during said active mode as suggested by Guerlin for maximum energy conservation (Guerlin: col. 2, lines 33-39).

Regarding claims 178 and 234, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 115.

39. Claims 117, 121, 180, 184, and 237 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter as applied to claim 114 above, and further in view of in view of Chapman.

Regarding claim 117, Aoyama in combination with Hunter fail to disclose wherein said first oscillator includes a crystal oscillator and said second oscillator includes a semiconductor oscillator.

However, Chapman discloses a wireless device with active and low power modes wherein said first oscillator includes a crystal oscillator (col. 4, lines 33-54) and said second oscillator includes a semiconductor oscillator (col. 4, lines 33-54).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the first oscillator and second oscillators of Aoyama in combination with Hunter a crystal oscillator and a semiconductor oscillator, respectively, as suggested by Chapman because they were widely available and have the characteristics of drawing very little power in both sleep and stop modes (Chapman: col. 4, lines 39-43).

Regarding claim 180, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 117.

Regarding claim 121, Aoyama in combination with Hunter fail to disclose wherein said shutdown module selectively calibrates said second reference frequency of said second oscillator using said first reference frequency of said first oscillator before transitioning to said low power mode.

However, Chapman discloses a wireless device with active and low power modes wherein said shutdown module selectively calibrates said second reference frequency of said second oscillator using said first reference frequency of said first oscillator before transitioning to said low power mode (from col. 2, line 65 through col. 3, line 5).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to calibrate said second reference frequency of said second oscillator using said first reference frequency of said first oscillator of Aoyama in combination with Hunter before transitioning to said low power mode as suggested by Chapman because it would compensate for the inaccuracy of the semiconductor oscillator due to its dependence upon voltage, process and temperature and it's inherent frequency instability (Chapman: from col. 2, line 65 through col. 3, line 5).

Regarding claims 184 and 237, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 121.

40. Claims 118-119, 181-182, and 235-236 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama/Hunter/Guerlin as applied to claim 115 above, and further in view of Applicant's admitted prior art.

Regarding claim 118, Aoyama/Hunter/Guerlin disclose the wireless device of claim 115 (see above), wherein the shutdown module shuts down the circuits of the transceiver during said low power mode (Guerlin: col. 2, lines 33-39) and operates the circuits of the transceiver during said active move (Guerlin: col. 2, lines 30-39). Aoyama/Guerlin fail to disclose wherein said RF transceiver includes a first phase locked loop (PLL).

However, Applicant's admitted prior art discloses wherein said RF transceiver includes a first phase locked loop (PLL) (Background of the Invention: paragraph [0003]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the RF transceiver of Aoyama/Hunter/Guerlin a first phase

locked loop as suggested by Applicant's admitted prior art because they adjust the frequency of the input signal.

Regarding claims 181 and 235, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 118.

Regarding claim 119, Aoyama/Hunter/Guerlin disclose the wireless device of claim 115 (see above), wherein the shutdown module shuts down the circuits of the transceiver during said low power mode (col. 2, lines 33-39) and operates the circuits of the transceiver during said active move (col. 2, lines 30-39). Aoyama/Guerlin fail to disclose wherein said RF transceiver includes a second phase locked loop (PLL).

However, Applicant's admitted prior art discloses wherein said RF transceiver includes a second phase locked loop (PLL) (Background of the Invention: paragraph [0003]; note the plurality of phase locked loops).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the RF transceiver of Aoyama/Guerlin a second phase locked loop as suggested by Applicant's admitted prior art because they adjust the frequency of the input signal.

Regarding claims 182 and 236, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 119.

41. Claims 122, 185, and 238 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter as applied to claim 114 above, and further in view of Amos.

Regarding claim 122, Aoyama in combination with Hunter fail to disclose further comprising a remote device for periodically transmitting a beacon, wherein said shutdown module transitions said wireless device from said low power mode prior to receiving a beacon.

However, in the same filed of endeavor, Amos discloses a system comprising a wireless device with active and low power modes further comprising a remote device for periodically transmitting a beacon, wherein said shutdown module transitions said wireless device from said low power mode prior to receiving a beacon (col. 1, lines 62-65; col. 5, lines 1-8).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to further comprise in the system of Aoyama in combination with Hunter a remote device for periodically transmitting a beacon, wherein said shutdown module transitions said wireless device from said low power mode prior to receiving a beacon as suggested by Amos because the system would determine if there is any activity that needs to be handled (Amos: col. 5, lines 8-9).

Regarding claims 185 and 238, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 122.

GROUP VI:

42. Claims 123-124, 126-128, 131, 186-187, 189-191, 194, 239-241 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in view of Hunter.

Regarding claim 123, Aoyama discloses a wireless device with active and low power modes, comprising: a first oscillator that generates a first reference frequency (Fig. 3, reference numeral 3); a second oscillator that generates a second reference frequency that is lower than said first frequency (Fig. 3, reference numeral 4; col. 5, lines 9-11); a first wireless circuit that

communicates with said first oscillator (Figs. 3 and 9); a second wireless circuit that communicates with said second oscillator (Figs. 3 and 9); and a shutdown module that shuts down said first wireless circuit and said first oscillator (col. 11, lines 12-15 and 19-26) and operates said second oscillator and said second wireless circuit during said low power mode (col. 11, lines 5-10 and 27-29), and that operates said first oscillator and said first wireless circuit during said active mode (col. 10, lines 47-63).

In spite of that Aoyama teaches the device is a camera (col. 1, lines 10-12), Aoyama fails to particularly disclose that the camera is wireless as claimed.

In the same field of endeavor, Hunter discloses a camera device that is part of a wireless network (page 3, paragraph [0024]). The device includes a normal active mode and power conservation mode (page 3, paragraph [0026]). The device at least one of transmits and receives data during the active mode (page 3, paragraph [0026]). Some of the advantages of Hunter's invention are that wireless device and its circuitry are widely available, user-friendlier, more reliable, and for portability.

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify Aoyama's invention to operate in a wireless network as suggested by Hunter because wireless devices are widely available, user-friendlier, more reliable, and for portability.

Regarding claims 186 and 239, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 123.

Regarding claim 124, in the obvious combination, Aoyama discloses further comprising a control device that includes said shutdown module (from col. 7, line 39 through col. 8, line 2).

Note that Hunter discloses a wireless Ethernet network device; therefore, in the combination, the controller of Aoyama is modified to be a medium access control (MAC) device in order to comply with particular requirements of Ethernet networks.

Regarding claim 187, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 124.

Regarding claim 126, in the obvious combination, Aoyama discloses further comprising: a voltage supply that supplies a first voltage level to said first oscillator (Fig. 3, reference numeral 3) and a second voltage level that is less than said first voltage level to said second oscillator (Fig. 3, reference numeral 4; col. 5, lines 9-11).

Regarding claims 189 and 240, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 126.

Regarding claim 127, in the obvious combination, Aoyama discloses wherein said voltage supply includes a first voltage supply that supplies said first voltage level to said first wireless circuit (col. 10, lines 59-63), and said second voltage supply that supplies said second voltage level to said second wireless circuit (col. 11, lines 11-29).

Regarding claims 190, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 127.

Regarding claim 128, in the obvious combination, Aoyama discloses wherein said shutdown module transitions from said first voltage level to said second voltage level when transitioning from said active mode to said low power mode (from col. 7, line 66 through col. 8, line 2) and transitions from said second voltage level to said first voltage level when

transitioning form said low power mode to said active mode (col. 7, lines 39-49 and col. 8, lines 28-39).

Regarding claims 191 and 241, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 128.

Regarding claim 131, in the obvious combination, Aoyama discloses wherein said first voltage supply includes a first voltage regulator and said voltage supply includes a second voltage regulator (Figs. 3 and 9).

Regarding claims 194, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 131.

43. Claims 125, 132, 188, 195, 244 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter as applied to claim 123 above, and further in view of Chapman.

Regarding claim 125, Aoyama in combination with Hunter fail to disclose wherein said first oscillator includes a crystal oscillator and said second oscillator includes a semiconductor oscillator.

However, Chapman discloses a wireless device with active and low power modes wherein said first oscillator includes a crystal oscillator (col. 4, lines 33-54) and said second oscillator includes a semiconductor oscillator (col. 4, lines 33-54).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the first and second oscillators of Aoyama in combination with Hunter a crystal oscillator and a semiconductor oscillator, respectively, as suggested by

Chapman because they are widely available and have the characteristics of drawing very little power in both sleep and stop modes (Chapman: col. 4, lines 39-43).

Regarding claim 188, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 125.

Regarding claim 132, Aoyama in combination with Hunter fail to disclose wherein said shutdown module selectively calibrates said second reference frequency of said second oscillator using said first reference frequency of said first oscillator before transitioning to said low power mode.

However, Chapman discloses a wireless device with active and low power modes wherein said shutdown module selectively calibrates said second reference frequency of said second oscillator using said first reference frequency of said first oscillator before transitioning to said low power mode (from col. 2, line 65 through col. 3, line 5).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to calibrate said second reference frequency of said second oscillator using said first reference frequency of said first oscillator of Aoyama before transitioning to said low power mode as suggested by Chapman because it would compensate for the inaccuracy of the semiconductor oscillator due to its dependence upon voltage, process and temperature and it's inherent frequency instability (Chapman: from col. 2, line 65 through col. 3, line 5).

Regarding claims 195 and 244, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 132.

44. Claims 129, 192, and 242 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter as applied to claim 123 above and further in views of Guerlin and Applicant's admitted prior art.

Regarding claim 129, Aoyama in combination with Hunter fail to disclose wherein said first wireless circuit includes a first phase locked loop (PLL) and wherein said shutdown module shuts down said first PLL during said low power mode and operates said first PLL during said active mode.

However, Guerlin discloses a wireless device with active and low power modes wherein said first wireless circuit (col. 1, lines 55-63; col. 2, lines 33-39; note the transceiver) includes circuitry and wherein said shut down module shouts down said first circuitry during said low power mode (col. 2, lines 33-39) and operates said circuitry during said active mode (col. 2, lines 33-39).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate in the wireless circuit of Aoyama in combination with Hunter circuitry wherein said shut down module shouts down said first circuitry during said low power mode (col. 2, lines 33-39) and operates said circuitry during said active mode as suggested by Guerlin because they are the typical components of a wireless, e.g., a mobile telephone (Guerlin: col. 1, lines 55-63).

Aoyama/Hunter/Guerlin fail to disclose wherein said first wireless circuit includes a first phase locked loop (PLL).

However, Applicant's admitted prior art discloses wherein said wireless circuit (note the transceiver) includes a first phase locked loop (PLL) (Background of the Invention: paragraph [0003]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the wireless circuit of Aoyama/Hunter/Guerlin a first phase locked loop as suggested by Applicant's admitted prior art because they adjust the frequency of the input signal.

Regarding claims 192 and 242, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 129.

45. Claims 130, 133, 193, 196, 243, and 245 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter as applied to claim 123 above and further in view of Amos.

Regarding claim 130, Aoyama in combination with Hunter fail to disclose wherein said first wireless circuit includes at least one of a base band processor (BBP) and/or a radio frequency (FR) transmitter.

However, Amos discloses a wireless device with active and low power modes wherein said first wireless circuit includes at least one of a base band processor (BBP) and/or a radio frequency (FR) transmitter (col. 5, lines 28-30).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the device of Aoyama in combination with Hunter at least one of a base band processor (BBP) and/or a radio frequency (FR) transmitter as suggested by

Amos because it would be able to receive beacons in order for the shutdown module to handle the activity (col. 5, lines 7-9).

Regarding claims 193 and 243, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 130.

Regarding claim 133, Aoyama in combination with Hunter disclose a system comprising the wireless device of claim 123 (see above). Aoyama in combination with Hunter fail to disclose further comprising a remote device for periodically transmitting a beacon, wherein said shutdown module transitions said wireless device from said low power mode prior to receiving a beacon.

However, in the same field of endeavor, Amos discloses a system comprising a wireless device with active and low power modes further comprising a remote device for periodically transmitting a beacon, wherein said shutdown module transitions said wireless device from said low power mode prior to receiving a beacon (col. 1, lines 62-65; col. 5, lines 1-8).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to further comprise in the system of Aoyama in combination with Hunter remote device for periodically transmitting a beacon, wherein said shutdown module transitions said wireless device from said low power mode prior to receiving a beacon as suggested by Amos because the system would determine if there is any activity that needs to be handled (Amos: col. 5, lines 8-9).

Regarding claims 196 and 245, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 133.

GROUP VII:

46. Claims 134-137, 139, 142, 197-200, 202, 205, and 246-248 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in view of Hunter.

Regarding claim 134, Aoyama discloses a device with active and low power modes, comprising; a voltage supply that supplies a first voltage level and a second voltage level that is less than said first voltage level (Fig. 3, reference numerals Vdd and 1); a first wireless circuit (Figs. 3 and 9); a second wireless circuit (Figs. 3 and 9); and a shutdown module that shuts down said first wireless circuit (col. 11, lines 12-15 and 19-26) and operates said second wireless circuit in said low power mode (col. 11, lines 5-10 and 27-29) and transitions from said first voltage level to said second voltage level when transitioning from said active mode to said low power mode (from col. 7, line 66 through col. 8, line 2), and that operates said first wireless circuit in said active mode (col. 10, lines 47-63) and transitions from said second voltage level to said first voltage level when transitioning from said low power mode to said active mode (col. 7, lines 39-49 and col. 8, lines 28-39).

In spite of that Aoyama teaches the device is a camera (col. 1, lines 10-12), Aoyama fails to particularly disclose that the camera is wireless as claimed.

In the same field of endeavor, Hunter discloses a camera device that is part of a wireless network (page 3, paragraph [0024]). The device includes a normal active mode and power conservation mode (page 3, paragraph [0026]). The device at least one of transmits and receives data during the active mode (page 3, paragraph [0026]). Some of the advantages of Hunter's invention are that wireless device and its circuitry are widely available, user-friendlier, more reliable, and for portability.

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify Aoyama's invention to operate in a wireless network as suggested by Hunter because wireless devices are widely available, user-friendlier, more reliable, and for portability.

Regarding claims 197 and 246, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 134.

Regarding claim 135, in the obvious combination, Aoyama discloses wherein said first voltage supply includes a first voltage supply that supplies said first voltage level and a second voltage supply that supplies said second voltage level (Figs. 3 and 9, reference numeral Vdd and 1, respectively).

Regarding claim 198, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 135.

Regarding claim 136, in the obvious combination, Aoyama discloses further comprising a control device that includes said shutdown module (from col. 7, line 39 through col. 8, line 2). Note that Hunter discloses a wireless Ethernet network device; therefore, in the combination, the controller of Aoyama is modified to be a medium access control (MAC) device in order to comply with particular requirements of Ethernet networks.

Regarding claim 199, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 136.

Regarding claim 137, in the obvious combination, Aoyama discloses further comprising: a first oscillator that communicates with said first wireless circuit (Figs. 3 and 9, reference numeral 3), that receives said first voltage level and that generates a first reference frequency

(Figs. 3 and 9, reference numeral 3); and a second oscillator that receives said second voltage level, that communicates with said second wireless circuit, that consumes less power than said first oscillator and that generates a second reference frequency (Figs. 3 and 9, reference numeral 4; col. 5, lines 9-11).

Regarding claim 200 and 247, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 137.

Regarding claim 139, in the obvious combination, Aoyama discloses wherein said shutdown module shuts down said first oscillator and operates said second oscillator during said low power mode (col. 7, lines 51-52 and 59-62) and operates said first oscillator in said active mode (col. 7, lines 39-42).

Regarding claims 202 and 248, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 139.

Regarding claim 142, Aoyama discloses the wireless device of claim 135 (see above), wherein said first voltage supply includes a first voltage regulator and said voltage supply includes a second voltage regulator (Figs. 3 and 9).

Regarding claim 205, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 142.

47. Claims 138, 143, 201, 206, and 251 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter as applied to claim 137 above, and further in view of Chapman.

Regarding claim 138, Aoyama in combination with Hunter fail to disclose wherein said first oscillator includes a crystal oscillator and said second oscillator includes a semiconductor oscillator.

However, Chapman discloses a wireless device with active and low power modes wherein said first oscillator includes a crystal oscillator (col. 4, lines 33-54) and said second oscillator includes a semiconductor oscillator (col. 4, lines 33-54).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the first and second oscillators of Aoyama in combination with Hunter a crystal oscillator and a semiconductor oscillator, respectively, as suggested by Chapman because they are widely available and have the characteristics of drawing very little power in both sleep and stop modes (Chapman: col. 4, lines 39-43).

Regarding claim 201, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 138.

Regarding claim 143, Aoyama in combination with Hunter fail to disclose wherein said shutdown module selectively calibrates said second reference frequency of said second oscillator using said first reference frequency of said first oscillator before transitioning to said low power mode.

However, Chapman discloses a wireless device with active and low power modes wherein said shutdown module selectively calibrates said second reference frequency of said second oscillator using said first reference frequency of said first oscillator before transitioning to said low power mode (from col. 2, line 65 through col. 3, line 5).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to calibrate said second reference frequency of said second oscillator using said first reference frequency of said first oscillator of Aoyama before transitioning to said low power mode as suggested by Chapman because it would compensate for the inaccuracy of the semiconductor oscillator due to its dependence upon voltage, process and temperature and it's inherent frequency instability (Chapman: from col. 2, line 65 through col. 3, line 5).

Regarding claims 206 and 251, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 143.

48. Claims 140; 203, and 249 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter as applied to claim 134 above and further in views of Guerlin and Applicant's admitted prior art.

Regarding claim 140, Aoyama in combination with Hunter fail to disclose wherein said first wireless circuit includes a first phase locked loop (PLL) and wherein said shutdown module shuts down said first PLL during said low power mode and operates said first PLL during said active mode.

However, Guerlin discloses a wireless device with active and low power modes wherein said first wireless circuit (col. 1, lines 55-63; col. 2, lines 33-39; note the transceiver) includes circuitry and wherein said shut down module shouts down said first circuitry during said low power mode (col. 2, lines 33-39) and operates said circuitry during said active mode (col. 2, lines 33-39).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate in the wireless circuit of Aoyama in combination with

Hunter circuitry wherein said shut down module shouts down said first circuitry during said low power mode (col. 2, lines 33-39) and operates said circuitry during said active mode as suggested by Guerlin because they are the typical components of a wireless, e.g., a mobile telephone (Guerlin: col. 1, lines 55-63).

Aoyama/Hunter/Guerlin fail to disclose wherein said first wireless circuit includes a first phase locked loop (PLL).

However, Applicant's admitted prior art discloses wherein said wireless circuit (note the transceiver) includes a first phase locked loop (PLL) (Background of the Invention: paragraph [0003]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the wireless circuit of Aoyama/Hunter/Guerlin a first phase locked loop as suggested by Applicant's admitted prior art because they adjust the frequency of the input signal.

Regarding claims 203 and 249, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 140.

49. Claims 141, 144, 204, 207, 250, and 252 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter as applied to claim 134 above and further in view of Amos.

Regarding claim 141, Aoyama in combination with Hunter fail to disclose wherein said first wireless circuit includes at least one of a base band processor (BBP) and/or a radio frequency (FR) transmitter.

However, in the same field of endeavor, Amos discloses a wireless device with active and low power modes wherein said first wireless circuit includes at least one of a base band processor (BBP) and/or a radio frequency (FR) transmitter (col. 5, lines 28-30).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the device of Aoyama in combination with Hunter at least one of a base band processor (BBP) and/or a radio frequency (FR) transmitter as suggested by Amos because it would be able to receive beacons in order for the shutdown module to handle the activity (col. 5, lines 7-9).

Regarding claims 204 and 250, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 141.

Regarding claim 144, Aoyama in combination with Hunter disclose a system comprising the wireless device of claim 134 (see above). Aoyama in combination with Hunter fail to disclose further comprising a remote device for periodically transmitting a beacon, wherein said shutdown module transitions said wireless device from said low power mode prior to receiving a beacon.

However, in the same field of endeavor, Amos discloses a system comprising a wireless device with active and low power modes further comprising a remote device for periodically transmitting a beacon, wherein said shutdown module transitions said wireless device from said low power mode prior to receiving a beacon (col. 1, lines 62-65; col. 5, lines 1-8).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to further comprise in the system of Aoyama in combination with Hunter remote device for periodically transmitting a beacon, wherein said shutdown module transitions

said wireless device from said low power mode prior to receiving a beacon as suggested by Amos because the system would determine if there is any activity that needs to be handled (Amos: col. 5, lines 8-9).

Regarding claims 207 and 252, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 144.

GROUP VIII:

50. Claims 145, 147, 151, 208, 210, 214, and 253 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in view of Hunter.

Regarding claim 145, Aoyama discloses a device with active and low power modes, comprising; a first oscillator that generates a first reference frequency (Fig. 3, reference 3); a second oscillator that consumes less power than said first oscillator and that generates a second reference frequency (Fig. 3, reference numeral 4; col. 5, lines 9-11); a first voltage supply that supplies a first voltage level to said first oscillator (Fig. 3, reference Vdd); a second voltage supply that supplies a second voltage level that is less than said first voltage level to said second oscillator (Fig. 3, reference numeral 1); a first circuit that communicates with said first oscillator (Figs. 3 and 9); a second circuit that communicates with said second oscillator (Figs. 3 and 9); and a shutdown module that shuts down said first wireless circuit and said first oscillator in said low power mode (col. 11, lines 12-15 and 19-26), operates said second circuit and said second oscillator in said low power mode (col. 11, lines 5-10 and 27-29) and transitions from said first voltage level to said second voltage level when transitioning from said active mode to said low power mode (from col. 7, line 66 through col. 8, line 2), and that operates said first circuit and said first oscillator in said active mode (col. 10, lines 47-63)and transitions from said second

voltage level to said first voltage level when transitioning from said low power mode to said active mode (col. 7, lines 39-49 and col. 8, lines 28-39).

In spite of that Aoyama teaches the device is a camera (col. 1, lines 10-12), Aoyama fails to particularly disclose that the camera is wireless as claimed.

In the same field of endeavor, Hunter discloses a camera device that is part of a wireless network (page 3, paragraph [0024]). The device includes a normal active mode and power conservation mode (page 3, paragraph [0026]). The device at least one of transmits and receives data during the active mode (page 3, paragraph [0026]). Some of the advantages of Hunter's invention are that wireless devices and its wireless circuitry are widely available, user-friendlier, more reliable, and for portability.

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify Aoyama's invention to operate in a wireless network as suggested by Hunter because wireless devices are widely available, user-friendlier, more reliable, and for portability.

Regarding claims 208 and 253, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 145.

Regarding claim 151, in the obvious combination, Aoyama discloses wherein said first voltage supply includes a first voltage regulator and said voltage supply includes a second voltage regulator (Figs. 3 and 9).

Regarding claim 214, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 151.

Regarding claim 147, in the obvious combination, Aoyama discloses further comprising a control device that includes said shutdown module (from col. 7, line 39 through col. 8, line 2). Note that Hunter discloses a wireless Ethernet network device; therefore, the controller of Aoyama is modified to be a medium access control (MAC) device in order to comply with particular requirements of Ethernet networks.

Regarding claim 210, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 147.

51. Claims 146, 209, and 254 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter as applied to claim 145 above, and further in view of Guerlin.

Regarding claim 146, Aoyama in combination with Hunter fail to disclose wherein said first wireless circuit further comprises: a radio frequency (RF) transceiver that communicates with said first oscillator and said first voltage supply; and a baseband processor (BBP) that communicates with said first oscillator and said first voltage supply and that performs RF mixing, wherein said shutdown module shuts down said RF transceiver and said BBP during said low power mode.

However, Guerlin discloses a wireless device with active and low power modes wherein said first wireless circuit further comprises: a radio frequency (RF) transceiver that communicates with said first oscillator and said first voltage supply (Fig. 1, reference numeral 11; col. 1, lines 55-63); and a baseband processor (BBP) that communicates with said first oscillator and said first voltage supply and that performs RF mixing (col. 1, lines 55-63), wherein said shutdown module shuts down said RF transceiver and said BBP during said low power

mode (col. 2, lines 33-39) and operates said BBP and said RF transceiver during said active mode (col. 2, lines 30-33).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate in the wireless device of Aoyama in combination with Hunter a radio frequency (RF) transceiver that communicates with said first oscillator and said first voltage supply; and a baseband processor (BBP) that communicates with said first oscillator and said first voltage supply and that performs RF mixing, wherein said shutdown module shuts down said RF transceiver and said BBP during said low power mode and operates said BBP and said RF transceiver during said active mode as suggested by Guerlin for maximum energy conservation (Guerlin: col. 2, lines 33-39).

Regarding claims 209 and 254, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 146.

52. Claims 148, 152, 211, 215, and 257 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter as applied to claim 145 above, and further in view of Chapman.

Regarding claim 148, Aoyama in combination with Hunter fail to disclose wherein said first oscillator includes a crystal oscillator and said second oscillator includes a semiconductor oscillator.

However, Chapman discloses a wireless device with active and low power modes wherein said first oscillator includes a crystal oscillator (col. 4, lines 33-54) and said second oscillator includes a semiconductor oscillator (col. 4, lines 33-54).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the first and second oscillators of Aoyama in combination with Hunter a crystal oscillator and a semiconductor oscillator, respectively, as suggested by Chapman because they are widely available and have the characteristics of drawing very little power in both sleep and stop modes (Chapman: col. 4, lines 39-43).

Regarding claim 211, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 148.

Regarding claim 152, Aoyama in combination with Hunter fail to disclose wherein said shutdown module selectively calibrates said second reference frequency of said second oscillator using said first reference frequency of said first oscillator before transitioning to said low power mode.

However, Chapman discloses a wireless device with active and low power modes wherein said shutdown module selectively calibrates said second reference frequency of said second oscillator using said first reference frequency of said first oscillator before transitioning to said low power mode (from col. 2, line 65 through col. 3, line 5).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to calibrate said second reference frequency of said second oscillator using said first reference frequency of said first oscillator of Aoyama in combination with Hunter before transitioning to said low power mode as suggested by Chapman because it would compensate for the inaccuracy of the semiconductor oscillator due to its dependence upon voltage, process and temperature and it's inherent frequency instability (Chapman: from col. 2, line 65 through col. 3, line 5).

Regarding claims 215 and 257, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 152.

53. Claims 149-150, 212-213, and 255-256 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama/Hunter/Guerlin as applied to claim 146 above, and further in view of Applicant's admitted prior art.

Regarding claim 149, Aoyama/Hunter/Guerlin disclose the wireless device of claim 146 (see above), wherein the shutdown module shuts down the circuits of the transceiver during said low power mode (Guerlin: col. 2, lines 33-39) and operates the circuits of the transceiver during said active move (Guerlin: col. 2, lines 30-39). Aoyama/Hunter/Guerlin fail to disclose wherein said RF transceiver includes a first phase locked loop (PLL).

However, Applicant's admitted prior art discloses wherein said RF transceiver includes a first phase locked loop (PLL) (Background of the Invention: paragraph [0003]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the RF transceiver of Aoyama/Hunter/Guerlin a first phase locked loop as suggested by Applicant's admitted prior art because they adjust the frequency of the input signal.

Regarding claims 212 and 255, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 149.

Regarding claim 150, Aoyama/Hunter/Guerlin disclose the wireless device of claim 146 (see above), wherein the shutdown module shuts down the circuits of the transceiver during said low power mode (col. 2, lines 33-39) and operates the circuits of the transceiver during said

active move (col. 2, lines 30-39). Aoyama/Hunter/Guerlin fail to disclose wherein said RF transceiver includes a second phase locked loop (PLL).

However, Applicant's admitted prior art discloses wherein said RF transceiver includes a second phase locked loop (PLL) (Background of the Invention: paragraph [0003]; note the plurality of phase locked loops).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the RF transceiver of Aoyama/Hunter/Guerlin a second phase locked loop as suggested by Applicant's admitted prior art because they adjust the frequency of the input signal.

Regarding claims 213 and 256, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 150.

54. Claims 153, 216, and 258 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in combination with Hunter as applied to claim 145 above, and further in view of Amos.

Regarding claim 153, Aoyama in combination with Hunter discloses a system comprising the wireless device of claim 145 (see above). Aoyama in combination with Hunter fail to disclose further comprising a remote device for periodically transmitting a beacon, wherein said shutdown module transitions said wireless device from said low power mode to said active mode prior to receiving said beacon.

However, in the same field of endeavor, Amos discloses a system comprising a wireless device with active and low power modes further comprising a remote device for periodically transmitting a beacon, wherein said shutdown module transitions said wireless device from said

low power mode to said active mode prior to receiving said beacon (col. 1, lines 62-65; col. 5, lines 1-8).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to further comprise in the system of Aoyama in combination with Hunter remote device for periodically transmitting a beacon, wherein said shutdown module transitions said wireless device from said low power mode to said active mode prior to receiving said beacon as suggested by Amos because the system would determine if there is any activity that needs to be handled (Amos: col. 5, lines 8-9).

Regarding claims 216 and 258, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 153.

Allowable Subject Matter

55. Claim 18 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

56. Claims 48 and 78 are allowed.

Conclusion

57. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

58. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marivelisse Santiago-Cordero whose telephone number is (571) 272-7839. The examiner can normally be reached on Monday through Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MSC 3/23/06

MSC

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SUPERVISORY PRIMARY EXAMINER